Jameco P/N 128928

HIGH-Q

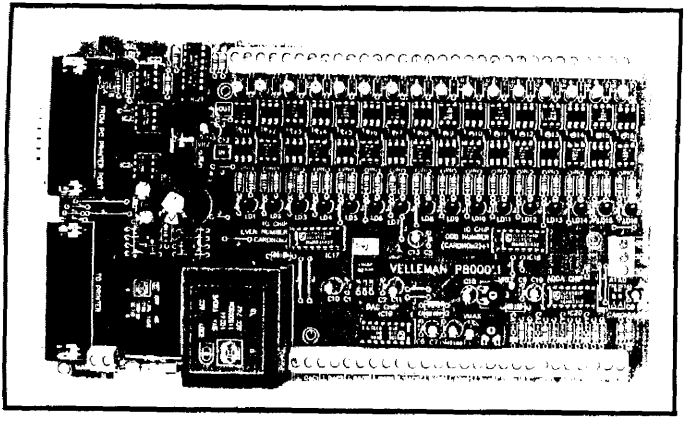
velleman-kit

COMPUTER INTERFACE BOARD

Skill level : 5

K8000

- Sixteen input / outputs with opto coupler
- Eight - 6bit (64 steps) analog outputs
- One - 8bit (256 steps) analog output
- Four -8bit (256 steps) analog inputs
- Simple connection with printer port
- Printer by-pass connector on board
- Full opto-isolation with computer
- Dimensions : 237 x 133mm (9.33" x 5.24")



K8000 COMPUTER INTERFACE BOARD

INTRODUCTION

To enable a computer to communicate with the outside world, it is usually fitted with a keyboard, a display and perhaps a mouse. If however it is to be used in certain applications, or certain control functions are to be carried out, then an interface is needed. The interface card here excels in its simplicity of use and installation. The card is connected in a very simple way to the printer port (there is no need to open up the computer). Likewise there is no need to install an extra printer port, even if a printer is to be used. This can be connected to the card in the usual manner. Connection to the computer is optically isolated, so that damage to the computer from the card is not possible. The card is controlled in a simple way using Turbo Pascal ®, Qbasic, Visual Basic or C++ procedures. These procedures are pre-programmed and are provided along with a number of test and example programmes on the diskette supplied. The card itself has 16 optically isolated digital connections, which can be freely chosen as either inputs or outputs (eg. 6 inputs and 10 outputs) according to how they are set up by the user. Furthermore, the card has 9 analogue outputs, of which one is high precision, and 4 analogue inputs. If this capacity is not sufficient for a particular application then up to 4 cards can be connected together (1 master and 3 slaves), such that an enormous potential exists. The card can be used with many of our kits such as : K6714 16 channel relay card, K6710 and K6711 15 channel remote control, K2607 thermometer adapter, K6700 and K6701 two wire communication (max. 16 channels), K2633 4 channel relay card, K2634 4 channel triac card etc...

TECHNICAL DATA

- Sixteen input / outputs with optocoupler
- Eight - 6bit (64 steps) analog outputs
- One - 8bit (256 steps) analog output
- Four - 8bit (256 steps) analog inputs
- Simple connection with printer port
- Printer by-pass connector on board
- Full opto-isolation with computer
- Dimensions of the PCB : 237 x 133mm (9.33" x 5.24")

COMPUTER INTERFACE BOARD ASSEMBLY AND TOOLS

Check that you have all the parts.

RECOMMENDED TOOLS

Miniature 25W soldering iron
Multicore solder
Soldering iron stand and sponge

ASSEMBLY

ATTENTION

IMPORTANT : Read the disk file READ.ME before commencing assembly. This file will report any updated changes.

ATTENTION : If the card is to be built as an expansion card (slave) to one already connected to the computer (master), then the components marked **S** should not be mounted.

CONNECTION

The computer can be connected to the card via a standard cable. If no printer is to be connected in, a cable can be made up, such as shown in figure 1.0 (the length of the cable has been tested to 10m).

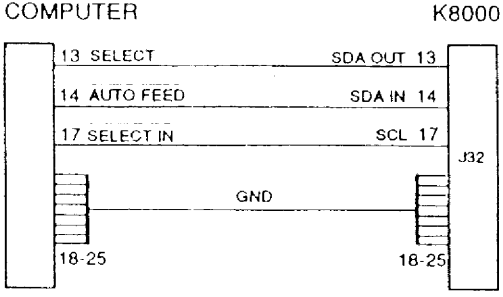
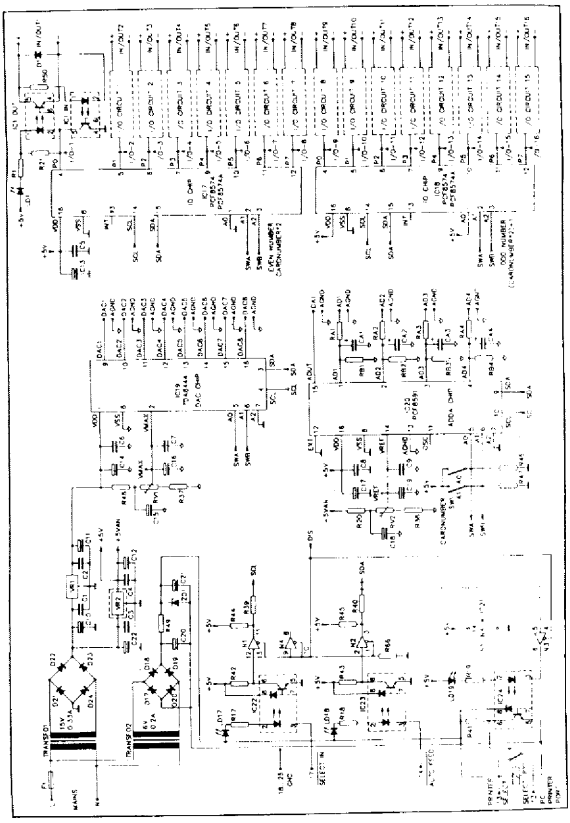


FIG 1.0

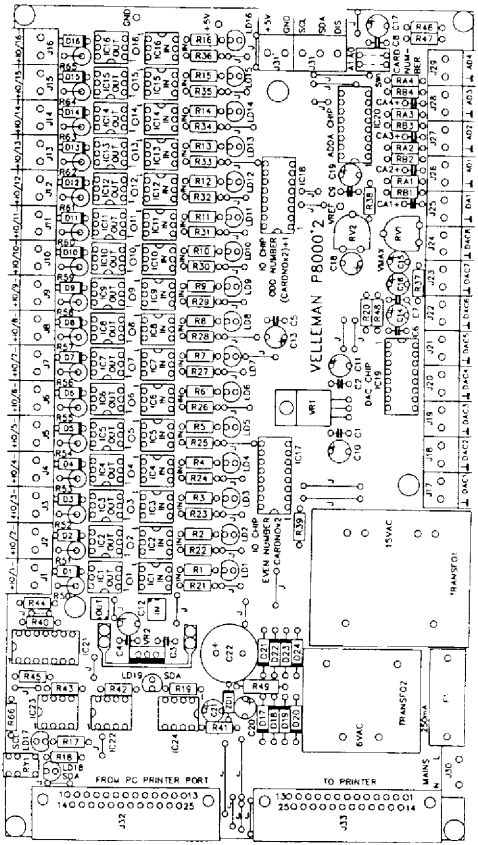
NB: if the printer feed through connector is used and problems subsequently occur with printing, then shorter cables must be used.

If the card has been built as a slave unit, then it must be connected via the three pole connector J31 and through to the GNR, SCL and SDA connections.

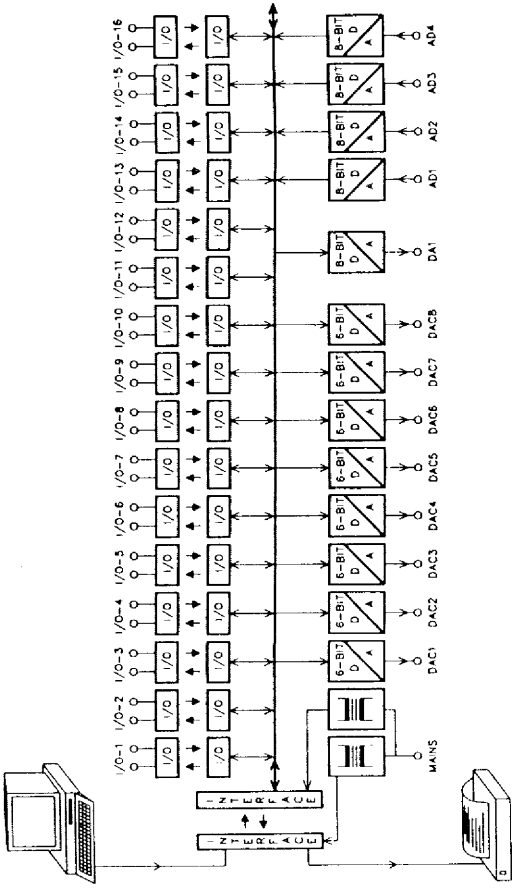
See the users manual for further connection configurations and tests.



Computer interface board
Schematics



Computer interface board
PCB layout and component placement


I/O-1
I/O-2
I/O-3
I/O-4
I/O-5
I/O-6
I/O-7
I/O-8
I/O-9
I/O-10
I/O-11
I/O-12
I/O-13
I/O-14
I/O-15
I/O-16
I/O
INTERFACE
INTERFACE
MAINS
6-BIT D A
8-BIT D A
DAC1
DAC2
DAC3
DAC4
DAC5
DAC6
DAC7
DAC8
DA1
AD1
AD2
AD3
AD4